

Solve each system by the method of your choice.

Date _____ Period _____

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Solve each system.

1) $6x + y = -3$
 $8 + 2x = 2y$

2) $0 = 3x + 4y + 16$
 $-3x - 6 = -6y$

3) $12x + 7y = 11$
 $3x + 4y = -13$

4) $-7x - 2y = -1$
 $4x - 3y = -16$

5) $2x + y = 7$
 $-x + 2y = -16$

6) $4x - 3y = -15$
 $-3x + y = 10$

How many solutions do each of the following system have. Justify.

7) $x = 4$
 $y = \frac{5}{4}x - 4$

8) $-7x + 7y = -7$
 $14x - 14y = 0$

9) $21x - 18y = -9$
 $28x - 24y = -12$

Evaluate each determinant.

$$10) \begin{vmatrix} 1 & -2 \\ 3 & -2 \end{vmatrix}$$

$$11) \begin{vmatrix} 4 & 0 & 4 \\ 5 & 4 & 5 \\ -5 & -3 & 4 \end{vmatrix}$$

Find the inverse of each matrix.

$$12) \begin{bmatrix} 7 & 0 \\ -3 & -1 \end{bmatrix}$$

$$13) \begin{bmatrix} 6 & -6 & 1 \\ -5 & -7 & 4 \\ -6 & -6 & 1 \end{bmatrix}$$

Solve each equation or state if there is no unique solution.

$$14) \begin{bmatrix} 7 & 9 \\ 1 & 2 \end{bmatrix} Y = \begin{bmatrix} 8 \\ 4 \end{bmatrix}$$

$$15) \begin{bmatrix} -5 & -7 \\ 4 & -8 \end{bmatrix} - \begin{bmatrix} -3 & 3 \\ 4 & -6 \end{bmatrix} A = \begin{bmatrix} -17 & -10 \\ 38 & -20 \end{bmatrix}$$

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Solve each system.

1) $6x + y = -3$
 $8 + 2x = 2y$

$(-1, 3)$

2) $0 = 3x + 4y + 16$
 $-3x - 6 = -6y$

$(-4, -1)$

3) $12x + 7y = 11$
 $3x + 4y = -13$

$(5, -7)$

4) $-7x - 2y = -1$
 $4x - 3y = -16$

$(-1, 4)$

5) $2x + y = 7$
 $-x + 2y = -16$

$(6, -5)$

6) $4x - 3y = -15$
 $-3x + y = 10$

$(-3, 1)$

How many solutions do each of the following system have. Justify.

7) $x = 4$
 $y = \frac{5}{4}x - 4$

1

8) $-7x + 7y = -7$
 $14x - 14y = 0$

No solution

9) $21x - 18y = -9$
 $28x - 24y = -12$

Infinite number of solutions

Evaluate each determinant.

$$10) \begin{vmatrix} 1 & -2 \\ 3 & -2 \end{vmatrix}$$

4

$$11) \begin{vmatrix} 4 & 0 & 4 \\ 5 & 4 & 5 \\ -5 & -3 & 4 \end{vmatrix}$$

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Find the inverse of each matrix.

$$12) \begin{bmatrix} 7 & 0 \\ -3 & -1 \end{bmatrix}$$

$$-\frac{1}{7} \begin{bmatrix} -1 & 0 \\ 3 & 7 \end{bmatrix}$$

$$13) \begin{bmatrix} 6 & -6 & 1 \\ -5 & -7 & 4 \\ -6 & -6 & 1 \end{bmatrix}$$

$$\frac{1}{204} \begin{bmatrix} 17 & 0 & -17 \\ -19 & 12 & -29 \\ -12 & 72 & -72 \end{bmatrix}$$

Solve each equation or state if there is no unique solution.

$$14) \begin{bmatrix} 7 & 9 \\ 1 & 2 \end{bmatrix} Y = \begin{bmatrix} 8 \\ 4 \end{bmatrix}$$

$$\begin{bmatrix} -4 \\ 4 \end{bmatrix}$$

$$15) \begin{bmatrix} -5 & -7 \\ 4 & -8 \end{bmatrix} - \begin{bmatrix} -3 & 3 \\ 4 & -6 \end{bmatrix} A = \begin{bmatrix} -17 & -10 \\ 38 & -20 \end{bmatrix}$$

$$\begin{bmatrix} 5 & -9 \\ 9 & -8 \end{bmatrix}$$